

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Claims 1-7. (Cancelled)

8. (Original) A medium access (MAC) protocol for a local-area optical wavelength division multiplexed (WDM) network having a scheduler, a control channel coupled to the scheduler, a data channel and a plurality of nodes, each of the plurality of nodes coupled to the control channel and the data channel, the MAC protocol comprising:

transmitting a control packet over the control channel of the WDM network, the control packet specifying a first one of the plurality of nodes in the network as a source node, a second one of the plurality of nodes in the network as a destination node and a value which corresponds to an amount of information which the source node can transmit; and

after transmitting the control packet, waiting a predetermined period of time related to the value specified in the first control packet.

9. (Original) The protocol of Claim 8, further comprising:
- receiving the control packet at each of the plurality of nodes in the network; and
- in response to the source node receiving the control packet, transmitting from the source node onto the data channel an amount of information not greater than the amount specified in the control packet.
10. (Currently amended) The protocol of Claim 8 wherein in response to the destination node specified in the control packet receiving the control packet, the destination node monitors the data channel for ~~the bytes~~ data following the control packet.
11. (Currently amended) The protocol of Claim ~~9~~ 10 wherein the destination node specified in the control packet retrieves the data from the data channel of the network
12. (Original) The protocol of Claim 8 wherein the amount of information specified in the control packet corresponds to a predetermined number of data packets.
13. (Currently amended) The protocol of Claim 8 wherein ~~"immediately or after a delay known to both the scheduler and the node"~~ transmitting the amount of information includes transmitting one or more data packets immediately or after a delay known to both the scheduler and the node ~~transmitting one or more data packets~~.
14. (Original) The protocol of Claim 8 wherein in response to the node to which the control packet is addressed receiving packet, immediately or after a delay

known to both the scheduler and the node transmitting no more bytes than are permitted by the control packet.

15. (Currently amended) The protocol of Claim ~~8~~ 9 wherein receiving the ~~first~~ control packet at each of the plurality of nodes in the network includes passively tapping the control channel at each of the plurality of nodes in the network to receive the ~~first~~ control packet.
16. (Currently amended) The protocol of Claim 8 wherein the value in the control packet corresponds to a number of bytes the source node can transmit and the predetermined period of time corresponds to the amount of time required for the data-source node to transmit the ~~byte-times specified in the control~~ messagebytes.
17. (Currently amended) The protocol of Claim 14 ~~wherein after waiting for the predetermined period of time~~ further comprising dispatching a second control ~~message~~ packet after waiting for the predetermined period of time.
18. (Currently amended) The protocol of Claim ~~15~~ 17 wherein at least one of ~~the~~ a source node and ~~the~~ a destination node specified in the second control message packet is different than the source node and the destination node specified in the first control ~~message~~ packet.
19. (Currently amended) The ~~MAC~~ protocol of Claim 8 wherein the control channel ~~13~~ and the data channel ~~16~~ are carried by the same fiber and wherein the control ~~messages~~ packet on the control channel ~~13~~ is "out-of-band" from ~~the data on the data channel 16~~.

20. (Currently amended) The ~~MAC~~-protocol of Claim 8 wherein transmitting the control packets includes transmitting the control packets from a headend of the network.
21. (Currently amended) The ~~MAC~~-protocol of Claim ~~40~~20 wherein transmitting the control packets from a headend of the network includes the headend dispatching a scheduler allocation message (SAM).
22. (Currently amended) The ~~MAC~~-protocol of Claim ~~40~~21 wherein the SAM specifies a source node address, a destination node address, and at least one of:  
(a) ~~the~~a number of bytes the source node may transmit to the destination node;  
and (b) ~~the~~ an amount of time in which the source node may transmit.
23. (Currently amended) A scheduler adapted for use in a network which includes an optical path having a first end and a second and having a control channel and a data channel and a plurality of nodes coupled to the optical path, said scheduler comprising:
- a control message processor for transmitting on the control channel one or more control messages to each of the plurality of nodes, each of the control messages allotting to at least one node a time period corresponding to a data transmission time for a node; and
- a scheduler timing processor, in connection with said control message processor, said scheduler timing processor for causing said control message processor to wait a period of time corresponding to the allotted data transmission time for a node prior to said control message processor releasing another control message.

24. (Original) The scheduler of Claim 23 wherein said control message processor includes a scheduler authorization message (SAM) processor for transmitting on the control channel one or more SAMs to each of the plurality of nodes.
25. (Currently amended) The network of Claim 23 wherein the control and data channels are ~~carried over separate~~ separate from each other physical media.
26. (Currently amended) The network of Claim 23 wherein the individual data channels and control channels are distinguished by ~~one of: wavelength, polarization, coding, timeslots, and spatial division multiplexing over distinct~~ physical media.
27. (New) The network of claim 25, wherein the control channel is out-of-band from the data channel.
28. (New) A method comprising:  
periodically polling a plurality of nodes in a local-area optical wavelength division multiplexed (WDM) network to obtain statistical information on the plurality of nodes; and  
in response to a request from one of the plurality of nodes, transmitting a control packet from a scheduler in the WDM network over a control channel of the WDM network, the control packet specifying a value corresponding to an amount of information which the one of the plurality of nodes can transmit based on the statistical information.
29. (New) The method of claim 28, further comprising:  
waiting a predetermined period of time related to the value specified in the control packet after transmitting the control packet.

30. (New) The method of claim 29, further comprising:

in response to a second request from a second one of the plurality of nodes, transmitting a second control packet from the scheduler over the control channel after waiting the predetermined period of time, the second control packet specifying a second value corresponding to a second amount of information which the second one of the plurality of nodes can transmit based on the statistical information, wherein the second value differs from the first value.